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Latitude of Markree Observatory by Meridian Observations.

E. J. Cooper, Esq., and Mr. Graham.

By Polaris, Above Pole.

1850.	Colat. ° ′ ″	Weight.
May 5	35 49 27·34	0·50
6	28·07	2·22
29	28·74	2·00
30	27·795	4·00
31	28·18	1·20
June 4	28·335	2·00
1851. Feb. 8	35 49 28·685	2·00
Mean	35 49 28·198	13·92

By Polaris, S.P.

1850.	Colat. ° ′ ″	Weight.
May 1	35 49 28·085	1·00
2	28·28	2·00
3	28·135	0·50
4	29·045	2·00
6	28·145	2·22
8	27·86	1·43
21	27·49	2·00
22	28·155	2·00
30	27·185	4·00
31	28·02	2·00
June 1	35 49 28·535	2·00
Mean	35 49 28·003	21·15

By Quick Stars.

1850.	Colat. ° ′ ″	Weight.
April 29	35 49 29·80	1·33
May 1	28·43	2·10
2	28·03	1·69
3	26·845	0·67
4	28·34	0·67
6	28·52	1·33
8	27·12	0·67
15	28·325	0·50
21	28·89	2·22
22	29·03	2·18
30	28·50	1·20
31	28·65	1·20
June 1	27·945	1·00
5	28·69	0·50
7	27·77	1·20
15	28·725	0·75
17	35 49 28·91	0·67
Mean	35 49 28·493	19·88

Mean Colatitude.

	° ′ ″	Weight.
By Quick Stars	35 49 28·493	19·88
Polaris, Above Pole	28·198	13·92
— S.P.	28·003	21·15
Mean	35 49 28·230	54·95
Latitude	54 10 31·77 North.	

On the Corrections of Lindenau's Elements of the Planet Mars.

By Mr. H. Breen, of the Royal Observatory, Greenwich.

The great attention given for the last twenty years by the Astronomer Royal to planetary observations at Cambridge and Greenwich, has furnished means for determining the corrections of the elements of all the large planets with great accuracy; and with regard to the planet *Mars*, the historical interest attached to it ought, as Lindenau observes, to be a sufficient inducement to

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pursue the subject. The publication of the reduction of the ancient Greenwich planetary observations by the Astronomer Royal gives, in connexion with his own series of observations, a mass of materials extending, with some interruptions, over nearly a century, and offers means for the determination of the secular variations of the elements. Mr. Breen has availed himself of all these materials as far as the year 1847. All the comparisons of the observations of *Mars* have been made with Lindenau's Tables; and through the whole series there is no other deviation from uniformity than the introduction of Mr. Airy's corrected mass of *Jupiter* in the calculations of the perturbations produced by that planet on *Mars*, for all the observations included in the planetary reductions, this correction not being included in the computations of the Berlin *Jahrbuch*, with which the places for 1833 have been compared, nor in the computations of the *Nautical Almanac* for the succeeding years. To produce strict uniformity, Mr. Breen has calculated the perturbations of *Jupiter* for each normal day from 1833 to 1847, and increased the results by $\frac{1}{50}$th part. The resulting corrections form the first table of his work.

Mr. Breen gives a brief statement of the method used by Lindenau, and of the materials employed by him in the deduction of his elements: he gives afterwards an account of his own methods. The formulæ and equations of condition used by Mr. Breen are of the same form as those used in his former papers on the corrections of the elements of the orbit of *Venus*. In the course of the work, a trifling error made in the planetary observations, by the use of wrong transit intervals for a short period, has been corrected and allowed for. The whole series of equations is divided into the following distinct groups of several years, depending on the continuity of the observations, viz. from 1751 to 1768; from 1790 to 1798; from 1820 to 1830; from 1833 to 1839; and finally from 1840 to 1847; and the corrections of the elements resulting from the solution of the equations are given separately for each group.

Determination of the Parallax of α^1 and α^2 Centauri.

By Mr. Maclear.

In this noble series, *both* stars have in almost all cases been observed with the mural circle, by reflexion and by direct vision at the *same* transit. The observations were made in the years 1842, 3, and 4, and again in 1848. The intervening years were spent on the great arc of meridian, which is now happily terminated. There are 192 double altitudes of α^1 *Centauri* and 199 of α^2 *Centauri*, and it must be borne in mind that each double altitude gives a result either free from instrumental error, or one in which the instrumental error is probably a constant. The series is divided into three groups. In the first and third groups the variable quantities of parallax and aberration run through a period or more. In the second group they run through a large part of a period.

The notation and mode of reduction is that followed by Mr.

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